# DEPARTMENT of ENVIRONMENTAL SERVICES Water Supply & Pollution Control Division - Biology Bureau

#### LAKE TROPHIC DATA

#### MORPHOMETRIC:

Lake: NEW POND		Lake Area (ha):	11.70
Town:	CANTERBURY	Maximum depth (m):	3.0
County:	Merrimack	Mean depth (m):	1.4
River Basin:	Merrimack	Volume (m³):	167000
Latitude:	43°23'59" N	Relative depth:	0.8
Longitude:	71°28'51" W	Shore configuration:	1.73
Elevation (f	t): 821	Areal water load (m/yr):	1.52
Shore length	(m): 2100	Flushing rate $(yr^{-1})$ :	1.10
Watershed are	ea (ha): 40.9	P retention coeff.:	0.85
% watershed p	onded: 0.0	Lake type: natural	w/dam

BIOLOGICAL:	14 January 1998	8 July 1997
DOM. PHYTOPLANKTON (% TOTAL) #1	SPARSE - NO DOMINANT	GRN FILAM. SPP 80%
#2		
#3		
PHYTOPLANKTON ABUNDANCE (units/mL)		
CHLOROPHYLL-A (µg/L)		1.85
DOM. ZOOPLANKTON (% TOTAL) #1	KELLICOTTIA 28%	HOLOPEDIUM 64%
#2	LRG RND CILIATE SPP 24%	CALANOID COPEPOD 36%
#3		
ROTIFERS/LITER	55	<1
MICROCRUSTACEA/LITER	35	36
ZOOPLANKTON ABUNDANCE (#/L)	125	36
VASCULAR PLANT ABUNDANCE		Abundant
SECCHI DISK TRANSPARENCY (m)		2.7
BOTTOM DISSOLVED OXYGEN (mg/L)	6.8	7.2
BACTERIA (E. coli, #/100 ml) #1		< 1
#2		
#3		

## SUMMER THERMAL STRATIFICATION:

### not stratified

Depth of thermocline (m): None Hypolimnion volume  $(m^3)$ : None Anoxic volume  $(m^3)$ : None

CHEMICAL:			NEW POND CANTERBU	RY		
	14 Janua	ary 1998	8 3	July 1997		
DEPTH (m)	1.5	-	1.0			2.0
pH (units)	6.1		6.5			6.2
A.N.C. (Alkalinity)	4.5		8.7			6.9
NITRATE NITROGEN	< 0.05		< 0.05		<	0.05
TOTAL KJELDAHL NITROGEN	0.40		0.30			0.40
TOTAL PHOSPHORUS	0.009		0.014			0.014
CONDUCTIVITY (µmhos/cm)	47.4		37.2		3	37.3
APPARENT COLOR (cpu)	17		23		:	24
MAGNESIUM			0.72			
CALCIUM			1.8			
SODIUM			3.9			
POTASSIUM			0.56			
CHLORIDE	6		6			6
SULFATE	4		4			4
TN : TP	44		21			29
CALCITE SATURATION INDEX			3.6			

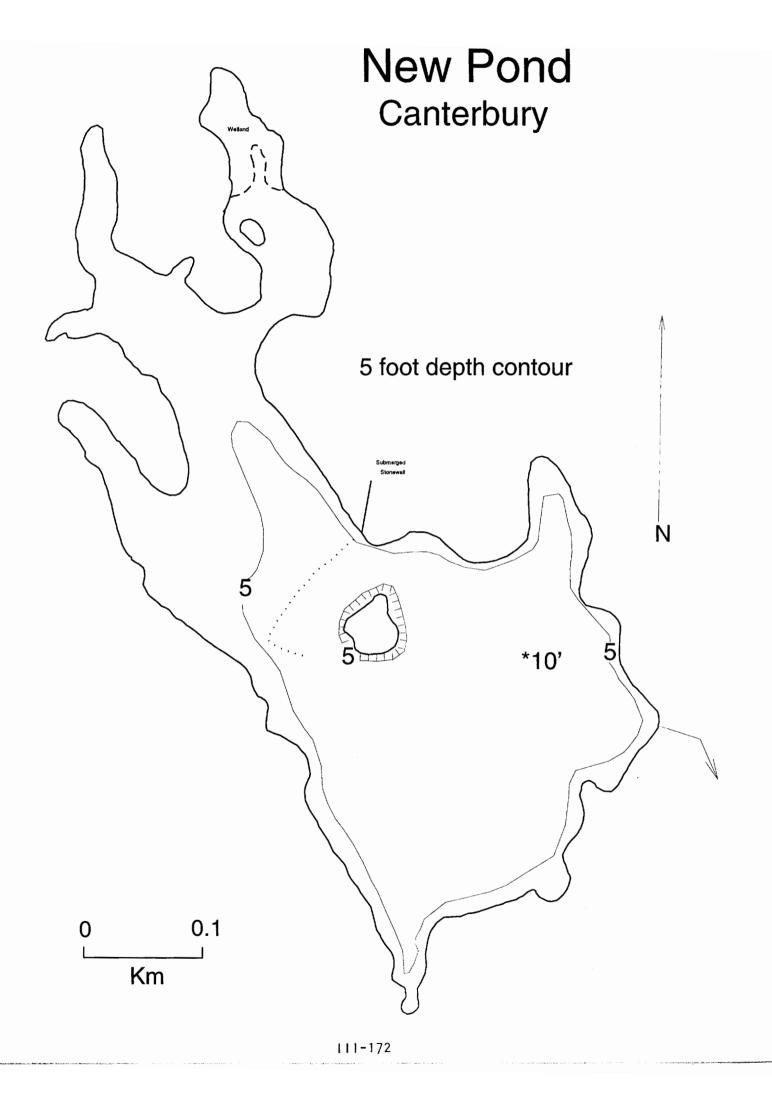
All results in mg/L unless indicated otherwise

## TROPHIC CLASSIFICATION: 1997

D.O.	S.D.	PLANT	CHL	TOTAL	CLASS
**	3	5	0	8	Meso.

#### COMMENTS:

- 1. AKA Stump Pond.
- 2. No motor boats allowed.
- 3. New Pond was also classified mesotrophic in a previous survey in 1985.
- 4. This is a shallow, lightly tea-colored pond with abundant rooted plant growth.



#### FIELD DATA SHEET

LAKE: NEW POND DATE: 07/08/97

TOWN: CANTERBURY

WEATHER: SUNNY & WARM

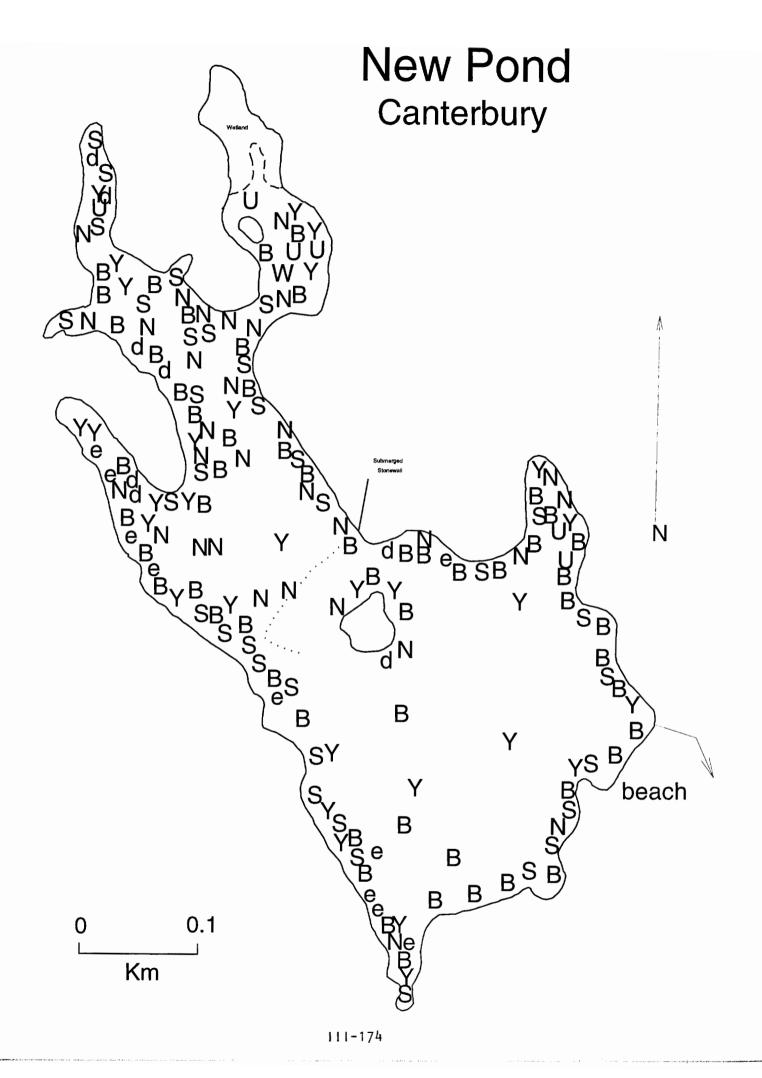
DEPTH (M)	TEMP	*DISSOLVED OXYGEN	OXYGEN SATURATION
0.1	24.0	7.6	89 %
1.0	23.8	7.7	89 %
2.0	23.7	7.2	84 %
2.5	23.6	7.2	84 %
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SECCHI DISK (m): 2.7 COMMENTS:

BOTTOM DEPTH (m): 3.0

TIME: 1045

\*Dissolved oxygen values are in mg/L



#### AQUATIC PLANT SURVEY

LAK	E: NEW POND	TOWN: CANTERBURY	DATE: 07/08/97
Кеу	F	PLANT NAME	ABUNDANCE
y	GENERIC	COMMON	ADONDANCE
В	Brasenia schreberi	Water shield	Abundant
Y	Nuphar	Yellow water lily	Scat/Common
S	Sparganium	Bur reed	Common
U	Utricularia	Bladderwort	Abundant
N	Nymphaea	White water lily	Scat/Common
е	Eleocharis	Spike rush	Scattered
d	Dulichium arundinaceum	Three-way sedge	Scattered
W	Potamogeton	Pondweed	Scattered
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#### OVERALL ABUNDANCE: Abundant

## **GENERAL OBSERVATIONS:**

- 1. Plants were very abundant in the northern coves which merged into wetland areas.
- 2. Bladderwort was abundant in all coves in depths of 5 feet or less. Because of its abundance and our desire to show other plants, much of this growth is not depicted on the map. Bladderwort was much more abundant than the map would indicate.
- 3. In the open water there were several areas where water shield and lily pad leaves had not yet reached the surface.